AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the application. The listing of claims presents each claim with its respective status shown in parentheses.

1-149. (**Canceled**)

150. (**New**) A prosthetic cardiac valve assembly for implanting into a patient to replace the function of a deficient native cardiac valve, the prosthetic cardiac valve assembly comprising:

a replacement valve comprising:

a plurality of leaflets through which blood is configured to selectively flow; and

a plurality of commissure points from which the replacement valve is suspended; and

a valve support connected to the replacement valve and configured to be collapsible with the replacement valve for transluminal delivery, said valve support having an axial length sufficient to extend, when implanted, from a position of a native annulus, past the replacement valve, the commissure points and the patient's coronary ostia, and into an ascending aorta;

wherein an outer circumferential dimension of the valve support is configured to vary along at least some portions of the axial length;

wherein the valve support comprises:

a first section terminating in a first end, said first end comprising an outer circumference having a first diameter, said first section configured to engage the native annulus; and

a second section terminating in a second end, said second end comprising an outer circumference having a second diameter, said second section configured to extend past the coronary ostia and into the ascending aorta;

wherein the second circumference is greater than the first circumference.

151. (**New**) The prosthetic cardiac valve assembly of Claim 150, wherein said first section comprises a plurality of intersecting members forming a plurality of cells, said cells

having a first cross-sectional size and arranged substantially uniformly around a periphery of the valve support;

wherein the second section comprises a plurality of intersecting members forming a plurality of cells, said cells having a second cross-sectional size and arranged substantially uniformly around a periphery of the valve support; and

wherein the second cross-sectional size is greater than the first cross-sectional size.

152. (**New**) The prosthetic cardiac valve assembly of Claim 151, wherein the cells at the first and second sections comprise a diamond shape.

153. (**New**) The prosthetic cardiac valve assembly of Claim 150, wherein the valve support is self-expanding.

154. (**New**) The prosthetic cardiac valve assembly of Claim 150, wherein the valve support comprises a plurality of wires.

155. (**New**) The prosthetic cardiac valve assembly of Claim 150, wherein the valve support comprises a shape memory material.

156. (**New**) The prosthetic cardiac valve assembly of Claim 155, wherein the shape memory material comprises Nitinol.

157. (**New**) The prosthetic cardiac valve assembly of Claim 150, wherein the replacement valve is secured to the valve support using at least one suture.

158. (**New**) The prosthetic cardiac valve assembly of Claim 150, wherein the replacement valve comprises at least three leaflets.

159. (**New**) The prosthetic cardiac valve assembly of Claim 150, wherein at least a portion of the valve support is configured to apply a radial expansion force up to a predetermined diameter.

160. (**New**) A prosthetic cardiac valve assembly configured to replace the function of a deficient native cardiac valve, the prosthetic cardiac valve assembly comprising:

a replacement valve comprising a plurality of leaflets and a plurality of commissure points from which the replacement valve is generally suspended; and

a valve support having a proximal portion and a distal portion, said valve support connected to the replacement valve and configured to be collapsible for transluminal delivery;

wherein the valve support is configured to extend, when implanted into a patient, from a native annulus at the proximal portion to an ascending aorta at the distal portion, past a location of the patient's coronary ostia;

wherein an outer shape of the valve support is configured to vary along an axial length of said valve support such that a cross-sectional dimension of the distal portion is generally larger than a cross-sectional dimension of the proximal portion;

wherein the valve support comprises a plurality of intersecting members forming a plurality of cells, said cells being arranged substantially uniformly around a periphery of the valve support; and

wherein the plurality of cells located along the distal portion of the valve support comprise a larger cross-sectional size than the plurality of cells located along the proximal portion of the valve support.

161. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein the valve support comprises a proximal end and a distal end, a cross-sectional dimension of said distal end being larger than a cross-sectional dimension of said proximal end.

162. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein the plurality of cells at the proximal and distal portions comprise a diamond shape.

163. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein the valve support is self-expanding.

164. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein the valve support comprises a plurality of wires.

165. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein the valve support comprises a shape memory material.

166. (**New**) The prosthetic cardiac valve assembly of Claim 165, wherein the shape memory material comprises Nitinol.

167. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein the replacement valve is secured to the valve support using at least one suture.

168. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein the replacement valve comprises at least three leaflets.

169. (**New**) The prosthetic cardiac valve assembly of Claim 160, wherein at least a portion of the valve support is configured to apply a radial expansion force up to a predetermined diameter.